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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,446	03/02/2004	Virgil George Leenerts	10031290-1	3458
7590	06/01/2005			EXAMINER NGUYEN, KHANH V
AGILENT TECHNOLOGIES, INC. Legal Department, DL429 Intellectual Property Administration P.O. Box 7599 Loveland, CO 80537-0599			ART UNIT 2817	PAPER NUMBER
DATE MAILED: 06/01/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/791,446	LEENERTS ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Khanh V. Nguyen	2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 02 March 2004.

2a)  This action is **FINAL**.                    2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 1-34 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 1-8, 11 and 16-30 is/are rejected.

7)  Claim(s) 9, 10, 12-15, 28 and 31-34 is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5)  Notice of Informal Patent Application (PTO-152)  
6)  Other: \_\_\_\_\_.  
\_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 5, 8, 16, 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Simopoulos (5,777,519).

Regarding claims 1, 16, 17, Simopoulos (Fig. 3) discloses a high efficiency power amplifier system comprising: a PWM (62) and a switch (66) which can be read as class-D amplifier having the function thereof; a transformer having primary (38) and secondary (42) windings; and rectifier and filter circuit (44) having the functions thereof.

Regarding claim 5, wherein means for generating the AC input voltage is inherent in the reference circuit since the reference circuit having AC input signal.

Regarding claim 8, wherein rectifier (4) is a half-wave rectifier.

Claims 1, 5, 7, 8, 16, 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Duerbaum et al. (6,711,034).

Regarding claims 1, 16, 17, Duerbaum et al. (Fig. 1) disclose a DC-DC converter comprising: blocks (12, 16) can be read as a class-D amplifier having the function thereof; a transformer (T) having AC primary voltage and generate an AC secondary voltage at a secondary winding; diodes (Da, Db) can be read as a rectifier for configuring AC secondary voltage and generating a rectified voltage; and a low-pass filter (F) configures to produce a DC output voltage.

Regarding claim 5, wherein the reference circuit comprises an AC input voltage source configured to generate the AC input voltage.

Regarding claim 7, wherein the rectifier can be a full-wave rectifier (90), see Fig. 10.

Regarding claim 8, wherein rectifier (Da, Db) is a half-wave rectifier.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2-4, 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Duerbaum et al.

Regarding claims 2-4, Duerbaum et al. disclose the claimed invention except having the types of AC inputs as claimed. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized one of desired inputs claimed, since applicant has not disclosed that AC inputs solve any stated problem or is for any particular purpose and it appears that the invention would perform equally well with any of the inputs claimed.

Regarding claim 6, Duerbaum et al. disclose the claimed invention except the primary frequency of the AC input voltage is approximately 300 Hz. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have implemented the desired value(s) for the AC input voltage, since they are based on the routine experimentation to obtain optimum operating parameters.

Claims 2-4, 6, 11, 18-27, 29, 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simopoulos (5,777,519).

Regarding claims 11, 18, 20-22, Simopoulos discloses the claimed invention except a low-pass filter coupled between the switch and the transformer. Simopoulos (Fig. 3) discloses a high efficiency power amplifier system comprising: a PWM (62); a

switch (66); a transformer having primary (38) and secondary (42) windings; and rectifier and filter circuit (44). However, it is well known in the art that addition of such a filter will enhance the circuit performance ie. improving the stability (oscillation) of the device. Therefore, adding such a filter to the reference circuit is considered within one of ordinary skill in the art.

Regarding claims 19, 26, wherein means for generating the AC input voltage is inherent in the reference circuit since the reference circuit having AC input signal.

Regarding claims 2-4, 23-25, Simopoulos discloses the claimed invention except having the types of AC inputs as claimed. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized one of desired inputs claimed, since applicant has not disclosed that AC inputs solve any stated problem or is for any particular purpose and it appears that the invention would perform equally well with any of the inputs claimed.

Regarding claims 6, 27, Simopoulos discloses the claimed invention except the primary frequency of the AC input voltage is approximately 300 Hz. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have implemented the desired value(s) for the AC input voltage, since they are based on the routine experimentation to obtain optimum operating parameters.

Regarding claim 29, the reference circuit discloses a half-wave rectifier and not a full-wave rectifier as claimed. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized a full-wave rectifier as claimed, since applicant has not disclosed that full-wave rectifier solves any

stated problem or is for any particular purpose and it appears that the invention would perform equally well with full-wave rectifier claimed.

Regarding claim 30, wherein the rectifier (44) of the reference circuit is a half-wave rectifier.

***Allowable Subject Matter***

Claims 9, 10, 12-15, 28, 31-34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Reason for allowance, see the entire claimed subject matters for respective claims.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additional references (Gu (6,535,399); Gilbert et al. (6,741,436); Takeyabu et al. (6,775,524); Malik et al. (6,865,624)) show further analogous prior art circuitry.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh V. Nguyen whose telephone number is (571) 272-1767. The examiner can normally be reached from 8:00 AM - 3:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571) 272-1769. The fax phone numbers

for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**KHANH VAN NGUYEN  
PRIMARY EXAMINER  
Art Unit: 2817**